**2016 SCIENCE OLYMPIAD COBRA INVITATIONAL METEROLOGY ANSWER PAPER**

1. Nitrogen, Oxygen, and Argon
2. Water Vapor, Carbon Dioxide, Ozone
3. These gases are considered variable because they are not always present in a constant proportion.
4. Troposphere, Stratosphere, Mesosphere, and Thermosphere
5. An inversion occurs in the stratosphere and thermosphere.
6. D
7. A
8. A
9. A
10. C
11. C
12. A
13. 1
14. 2
15. 3
16. 4
17. 1
18. 2
19. 1
20. 2
21. 1
22. 4
23. cirrus
24. cirrostratus
25. altocumulus
26. nimbostratus
27. stratocumulus
28. cumulus
29. cumulonimbus
30. mammatus
31. billow clouds
32. wind speed
33. any form of precipitation that does NOT reach the ground
34. A contrail, also known as a condensation trail, is a [cirrus-like](http://ww2010.atmos.uiuc.edu/(Gh)/wwhlpr/cirrus.rxml?hret=/guides/mtr/cld/cldtyp/oth/cntrl.rxml) trail of condensed water vapor often resembling the tail of a kite.
35. -Drought in Southern Africa, Southern India, Sri Lanka, Philippines, Indonesia, Australia, Southern Peru, Western Bolivia, Mexico, Central America
36. 4
37. 2
38. 4
39. 1
40. 4
41. 4
42. 3
43. 1
44. 4
45. 1
46. Horse Latitudes: This region of subsiding dry air and high pressure results in weak

winds. Tradition states that sailors gave the region of the subtropical high the name

"horse latitudes" because ships relying on wind power stalled; fearful of running out

of food and water, sailors threw their horses and cattle overboard to save on

provisions.

1. Gaspard Coriolis
2. Cirrus, cirrocumulus, cirrostratus
3. Mackerel Sky
4. 2000m-6000m; 6000ft-19000ft
5. Altostratus and Altocumulus
6. slight bending of light as it passes around the edge of an object